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# A New Species of *Croton* sect. *Luntia* (Euphorbiaceae) from Western Amazonian Brazil

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**ABSTRACT.** A new species of *Croton*, *C. subasperimus*, is described and illustrated from a previously unexplored area of Amazonas State, Brazil. It belongs to *Croton* sect. *Luntia* subsect. *Cuneati* because of its pinnate leaf venation, slightly reduplicate pistillate calyx, partially bisexual basal cymules, presence of lepidote trichomes, low stamen number, and multifid stigmas. It differs from related species in its stellate-lepidote trichomes that sometimes have tall porrect central rays and in its smaller, concolorous leaves with an obtuse base and stipitate glands along the margins.

**Key words:** Amazonia, Brazil, *Croton*, Euphorbiaceae, section *Luntia*.

*Croton* L. is the second largest genus of Euphorbiaceae, with over 1200 species distributed across the tropics, and it is most densely distributed in the West Indies and in Central and South America (Webster, 1994; Govaerts et al., 2000). The genus includes trees, shrubs, herbs, and lianas, and plants are generally monoecious or occasionally dioecious, with various kinds of stellate and lepidote trichomes. The inflorescences usually have the pistillate flowers positioned basally and the staminate ones apically, with the anthers inflexed in bud and the female petals generally reduced or absent. The Brazilian species have not been revised taxonomically since the treatment by Mueller (1873) in *Flora Brasiliensis*, although many individual taxa have been described since then. Recent treatments on South American *Croton* such as those of Cordeiro (1992), Secco (1992), Murillo (1999), and Webster et al. (1999) are still insufficient to determine all the species of Neotropical *Croton*. In the three large herbaria of Amazonian Brazil (IAN, INPA, MG), there are still many unidentified or misidentified specimens of *Croton*, and many of these cannot be matched to any currently described species.

The species described and illustrated below is a distinctive one that was recently collected on a he-

licopter trip to a remote and very poorly collected area of western Amazonian Brazil.

***Croton subasperrimus*** Secco, P. E. Berry & Rosário, sp. nov. TYPE: Brazil. Amazonas: mun. Canutama, rio Mucuim, margem direita do rio Purus, fazenda Morada do Sol, 22 Nov. 2000 (fl. fr), C. S. Rosário & A. S. L. Silva PO3-7-3559 (holotype, MG; isotypes, INPA, MO, RB, WIS). Figure 1.

Frutex monoicus, ramis dense trichomatibus lepidotis obtectis. Folia venatione pinnata, marginibus crenatis, basi glandularumpares instructa, supra sparse pubescentia, infra dense pubescentia. Inflorescentiae in thyrasis racemoideis terminalibus, cymulis inferioribus saepe bisexualibus. Flores staminati pedicellati, pedicellis trichomatibus stellato dendriticis obsitis. Flores pistillati breviter pedicellati, petalis 5 reductis vel obsoletis. Fructus dense lepidoto indumento obtecti. Ab *C. subcoriaceo* foliis minoribus concoloribus apicis acuminati et glandulis stipitatis marginalibus differt.

Shrub 1.5–2 m tall; stems densely covered by lepidote or stellate-lepidote, asperous trichomes. Leaves chartaceous, alternate, 4–10.5 × 1.5–4 cm, pinnately veined, elliptic to elliptic-lanceolate, with lepidote to stellate-lepidote trichomes (sometimes the trichomes with a central porrect ray 0.5–0.6 mm tall), the adaxial side sparsely pubescent, with trichomes concentrated along the midvein, the abaxial side more densely pubescent (especially when young), apex acuminate, base obtuse, margin slightly crenate and with small stipitate cylindrical glands ca. 0.3 mm diam. and 0.2–0.3 mm long, spaced 3–8 mm apart along the margin; petiole 4–10 mm long, densely covered by ferruginous indument, with a conspicuous pair of saucer-shaped glands 1–1.3 mm diam. at the apex on the adaxial to medial side, occasionally with a smaller pair of glands distal to the larger pair; stipules deciduous. Inflorescence a terminal, raceme-like thyrse 9–17.5 cm long, the rachis densely covered by stellate-lepidote trichomes, the male flowers distally grouped in fascicles of 3 to 5, the female flowers

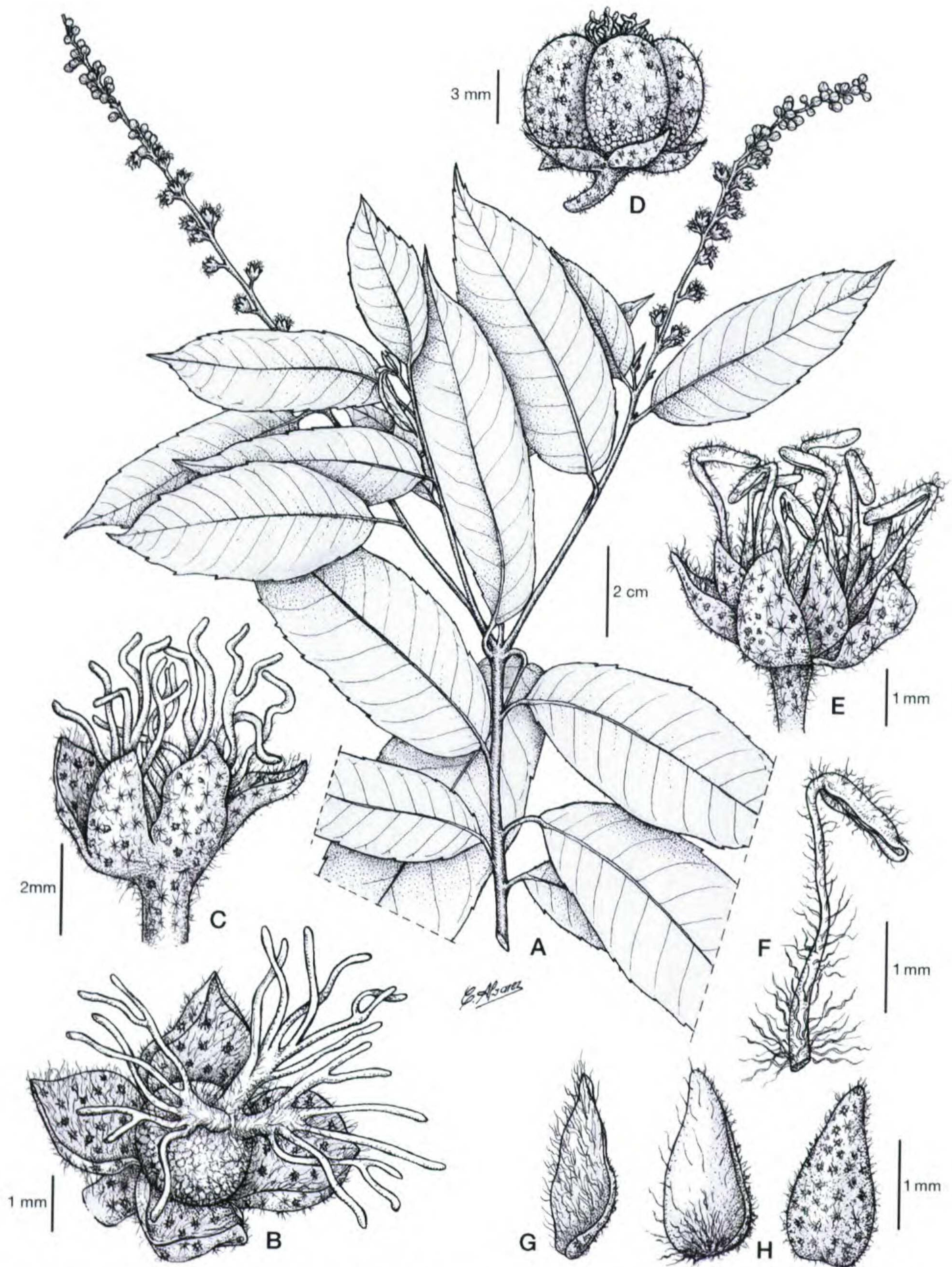


Figure 1. *Croton subasperimus* Secco, P. E. Berry & Rosário. —A. Branch with inflorescences showing distal staminate flowers and proximal pistillate ones. —B. Pistillate flower, with one calyx lobe removed to show the ovary. —C. Pistillate flower, lateral view. —D. Fruit. —E. Staminate flower. —F. Stamen. —G. Staminate petal, internal side shown. —H. Staminate sepals, internal and external surfaces shown. Drawn from the holotype, *Rosario & Silva PO3-7-3559*.

basal and solitary or sometimes in cymules with subtending male flowers. Staminate flowers with a slender pedicel 1–2 mm long, covered by stellate-dendritic trichomes; sepals 5, valvate to partly free in bud, elliptic-lanceolate, 2–3 mm long, externally with a dense indument of stellate-lepidote tri-

chomes, internally with a sparse indument of villose trichomes; petals 5, elliptic-lanceolate, 1.5–2.5 mm long, covered on the inside by villose trichomes, especially along the margins and internally near the base; stamens 10 to 11, the filaments filiform and 3–4 mm long, densely covered by villose trichomes,

the anthers basifixed, elongate, deflexed from the apex of the filament, 1.2–1.6 mm long  $\times$  0.4 mm wide, dorsally pubescent. Pistillate flowers with a thick pedicel 2–3 mm long densely covered by stellate-lepidote trichomes; calyx 5-lobed, slightly reduplicate in bud, the lobes 3–3.5 mm long, elliptic to lance-elliptic, densely stellate-lepidote on both surfaces; petals 5, nearly obsolete, 1–1.5 mm long, formed by tufts of stellate trichomes; ovary globose, ca. 2.5 mm diam., densely stellate-lepidote; styles 3, each branched up to 5 times, the branches 3–4 mm long, rugose, with lepidote trichomes at the base, glabrous from the middle to the apex. Fruit a capsule ca. 8 mm diam., densely lepidote, mericarps 3(4); seeds not seen.

*Habitat and distribution.* Known only from the type locality, in a remote and poorly collected region of western Amazonian Brazil, along a tributary of the rio Purus in Amazonas State. It is apparently a riverine species, probably subject to seasonal flooding.

*Etymology.* The specific epithet refers to the somewhat asperous feel of the leaves due to the stiff trichomes on the lower surface.

By virtue of the mostly lepidote trichomes, pinnate, subentire leaves with basal glands, stamens 10 or 11, and pistillate flowers with pedicels shorter than the calyx, and multifid stigmas, *Croton subasperrimus* most closely fits the definition of *Croton* sect. *Luntia* (Rafinesque) G. L. Webster subsect. *Cuneati* G. L. Webster, as defined in the sectional synopsis of Webster (1993). This section contains about ten species that occur mainly in the Amazon region and in the Guiana Shield. Both *C. subcoriaceus* Jablonski and *C. cuneatus* Klotzsch belong in the same subsection and can have similarly crenate leaves. Another as yet undescribed species from southern Amazonia apparently belongs to this subsection as well and has the same kind of stipitate glands along the leaf margins as our new species

does. *Croton subasperrimus* most closely resembles *C. subcoriaceus*, but it differs from that species by the smaller, concolorous leaves with an acuminate apex and obtuse base, the margin crenate and with stipitate glands, and fewer stamens. The widespread *C. cuneatus* in the same subsection differs in its leaves with a denser covering of smaller lepidote trichomes on the abaxial side, a cuneate base, and more numerous stamens.

*Acknowledgments.* The senior author wishes to thank the Brazilian CNPq for their financial support of this work (Project N° 301.252/86–6). William A. Rodrigues, from the Universidade Federal do Paraná, Brazil, assisted us with the Latin diagnosis, and Carlos A. Alvarez made the illustration of the new taxon.

#### Literature Cited

- Cordeiro, I. 1992. Flora da Serra do Cipó, Minas Gerais: Euphorbiaceae. *Bol. Bot. Univ. São Paulo* 13: 169–217.
- Govaerts, R., D. G. Frodin, & A. Radcliffe-Smith. 2000. World Checklist of Euphorbiaceae (and Pandaceae). Vol. 2. Euphorbiaceae: *Croton* to *Excoecariopsis*. Royal Botanic Gardens, Kew.
- Mueller, J. 1873. Euphorbiaceae: *Croton*. In: C. F. P. Martius & A. G. Eichler (editors), *Flora Brasiliensis* 11(2): 82–273.
- Murillo, J. 1999. Composición y distribución del género *Croton* in Colombia, con cuatro especies nuevas. *Caldasia* 21: 141–166.
- Secco, R. S. 1992. Notas sobre as lianas do gênero *Croton* L. (Euphorbiaceae). *Bol. Mus. Paraense "Emílio Goeldi," sér. Bot.* 8: 265–281.
- Webster, G. L. 1993. A provisional synopsis of the sections of the genus *Croton* (Euphorbiaceae). *Taxon* 42: 793–823.
- . 1994. Synopsis of the genera and suprageneric taxa of Euphorbiaceae. *Ann. Missouri Bot. Gard.* 81: 33–144.
- , P. E. Berry, W. S. Ambruster, H.-J. Esser, L. J. Gillespie, W. J. Hayden, G. A. Levin, R. A. Secco & A. V. Heald. 1999. Euphorbiaceae. In: P. E. Berry, K. Yatskiyevych & B. K. Holst (editors), *Flora of the Venezuelan Guayana* 5: 72–228. Missouri Botanical Garden Press, St. Louis.